

Unlocking Your Data

The Data-as-a-Product Paradigm



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“We are surrounded by **data** but starved for **insights**.”

— Jay Baer, a renowned global business strategist, advisor, and entrepreneur and a New York Times bestselling author

CHAPTER ONE

Introduction: Data Isn't Delivering

Data is multiplying at a relentless pace. Back in 2013, analysts at SINTEF, one of Europe's largest independent research organizations, warned that 90% of the world's data had been created in just the prior two years. More than a decade later, the deluge has only continued to intensify.

Despite this abundance, most organizations barely scratch the surface of their data's potential. They're drowning in data yet thirsting for meaning, unable to unlock insights into what's supposed to be their most valuable asset.

The inability to quickly convert raw data into actionable insights doesn't just impact decision-making; it drains resources, stifles innovation, and eats away at an organization's ability to compete and thrive, especially in the age of AI.

Companies dealing with such challenges pay a hefty price in:

- Lost revenue and missed opportunities
- Inefficient operations and project delays
- Inconsistent, uninformed decision-making
- Lack of strategic alignment
- Untrustworthy data
- Rising maintenance costs for bloated legacy systems
- Diminished brand credibility
- AI project failures or disconnected execution

Is There a Way Out? The Data-as-a-Product Paradigm

The traditional data management model that got us here no longer works. It's not sustainable and wasn't built for the scale, speed, and complexity of modern data demands.

The solution to these problems is an entirely new paradigm called data-as-a-product, or DaaP.

Adopting this new paradigm requires a complete shift in mindset.

Remember the shift from strict Waterfall project management methodology to Agile methodology in software development? Adopting DaaP thinking is just as significant and transformative for modern enterprises, if not more so.

The data-as-a-product approach applies product management thinking to how we manage and handle data. Instead of viewing data as the exhaust or unintentional byproduct of digital activities, we treat it as a high-value product that we intentionally design to serve specific use cases and continuously update to meet user needs.

When you treat data as a product, your success skyrockets for data, machine learning, and AI initiatives (which have a particularly high failure rate due to data quality and access issues). A DaaP paradigm gives you clean, trustworthy, and readily available data so that those who need it can find it and put it to use immediately.

Companies that treat data like a product can reduce the time it takes to implement it in new use cases by as much as 90%.

— Harvard Business Review

Gartner named “highly consumable data products” as a top data and analytics trend for 2025. At Marlabs, we've seen a huge surge of interest in DaaP and how it produces such top-tier data products. That's because companies that successfully implement data-as-a-product thinking in their organizations can expect:

- Accelerated AI and analytics initiatives
- Faster scaling and more accurate decision-making
- Simplified collaboration across teams and functions
- Greater innovation through timely, accessible insights
- Improved data quality
- Increased reuse of data across use cases
- Stronger business enablement and agility
- More ownership and accountability for data
- Streamlined governance and compliance efforts

By the time you finish reading this whitepaper, you'll understand:

- Why we have challenges with data and AI today
- What the DaaP paradigm is and why it's important
- What makes the DaaP approach different than other approaches
- The benefits of treating data like a product
- Use cases and examples of DaaP thinking in action
- How Marlabs' experienced data consultants can help

Let's hop in.

CHAPTER TWO

Why We Have Challenges with Data and AI Today

Every CIO and CDO wants a data ecosystem where users have a complete, personalized view of all the most up-to-date data they need to make impactful decisions in real time. However, what we want to achieve with data is vastly different from what most organizations can achieve with their current data practices.

We are quick to capture data from various sources, copy it, and store it, but converting it into meaningful, actionable insights and serving those insights up to provide business value remains painfully slow.

We end up with data management practices in which things have gone awry, where:

- IT owns and governs overly rigid, centralized architecture and data pipelines.
- Data requests flow through overworked teams.
- Business users must wait for customized reports and data access.
- Cross-functional data gathering for specific use cases is complex and time consuming.
- Documentation on data and its history is limited and inconsistent.
- Trust in the organization's data erodes.

Now mix in the growing prevalence of AI, and we're generating more data and adding more layers of complexity than ever before. It often spirals into chaos.

What Got Us into this Mess?

It started in the early 2000s, when we began collecting as much data as possible, thinking volume equals success. From there, we stored that data in siloed systems that aligned with siloed functions.

But soon after, cross-functional projects created issues...so we built shared data warehouses and established centralized, structured reporting that could draw data from different sources.

Then, data volumes exploded, and we started migrating lots of data to the cloud.

To compensate, we added data lakes and layered on business intelligence tools. Our IT teams focused on infrastructure, and separate data teams focused on integration, governance, and analytics.

For a while, this worked.

But as organizations add unstructured and semi-structured data, as cross-functional collaboration grows, and as the demand for AI innovation increases, what worked when our enterprise's data spheres were relatively small no longer serves us well. Now, the modern enterprise faces a cascade of challenges:

- Inability to scale
- Poor data quality inhibiting AI accuracy and efficiency
- Disconnected systems with redundant and inconsistent data
- Potential data that goes untapped
- Integration hurdles that delay projects
- Undefined data strategies
- Limited in-house expertise
- Rising operational costs
- Lack of standards and weak governance
- Compliance and security risks
- Delays in delivering timely, meaningful analytics
- No self-service access for business users

These issues spawn other major problems. Typically, those start when IT and data teams inevitably find themselves flooded with requests, bottlenecking processes. Then, business, IT, and analytics teams bring data from different sources and perspectives, which leads to confusion over which is the “right” dataset and misaligned assumptions about business needs. By the time teams overcome these two barriers (if they do), insights come late, incomplete, and off target.

Instead of trying to tweak a system that worked for an entirely different environment and culture, we need to strategically adapt to the needs of the future. Correctly applied, a data-as-a-product approach bridges the widening disconnect between those who create the data and those who need it to make decisions.

It's clear that trying to continue to do things “the way we've always done it” hurts organizations.

Getting at the Root: Why Extracting Value Is So Difficult

Deriving value from data is painful because companies rely on outdated data architectures and mindsets built to meet the needs of yesterday.

When you're flooded with data, traditional data management approaches yield slow delivery of incomplete insights that you can't necessarily trust. Flawed data leads to flawed business decisions. Innovation stalls. Valuable data sits underutilized, eating away at your ability to compete. But why doesn't it work? Is it just an issue of scalability?

Not exactly. The more central problem is mindset. The traditional approach to managing data treats data as a byproduct – something captured automatically by a transaction, process, or system, only to be retrieved later when someone requests a report or dashboard.

But if data is truly one of an organization's most valuable assets – and if our AI success hinges on how well we leverage it – shouldn't we develop and manage it with the same care and intention as any other product or asset we need to drive success in our organizations?

CHAPTER THREE

What Is DaaP, and How Can It Help?

What Is DaaP? Product Thinking Meets Data

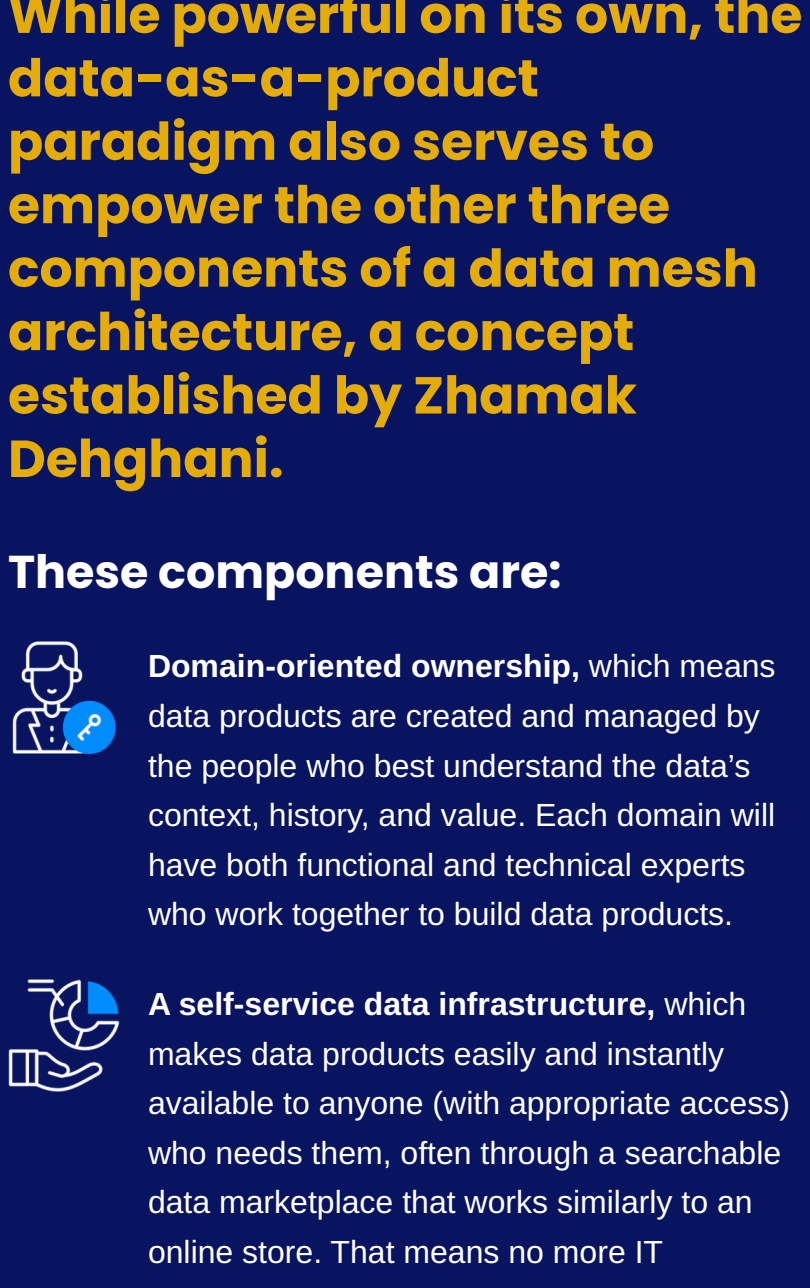
At its most basic, treating data as a product means introducing product management thinking to data. Organizations treat their datasets, reports, and other data assets the same way they would other products, whether that's a software program, a smart watch, an online game, or a pair of sneakers.

They treat data assets as **valuable, purposeful, and iterative products** that they build to specific audiences' needs (while often also making them accessible to multiple other audiences). Many organizations have already adopted product management tools for other internal assets, especially for internal software systems, but applying the same thinking to data has been a slower shift.

A major part of the shift to product thinking is defining end users, business goals, and feedback loops for every data asset or data product. This sets the foundation for treating data as a valuable, packaged product, built to serve a specific purpose and to repeatedly deliver measurable value through continuous improvement efforts.

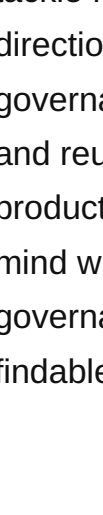
Let's take a look at some of the ways that taking a product management approach to data can solve some of the common issues of a traditional data management approach.

Traditional Data Management	Data-as-a-Product Approach
TRADITIONAL Data is an afterthought, a byproduct of digital interactions, transactions, and processes.	DATA-AS-A-PRODUCT Data is intentionally designed and packaged for specific use cases and end users.
TRADITIONAL Centralized, IT-owned monolithic systems store data.	DATA-AS-A-PRODUCT Domain-owned data products decentralize ownership and align with business context through a self-service data marketplace.
TRADITIONAL Organizations have a separate analytics platform and disconnected pipelines.	DATA-AS-A-PRODUCT Products are created to be integrated and interoperable across domains.
TRADITIONAL Data assets are created reactively; IT or data teams receive requests in a queue and cannot fulfill them quickly.	DATA-AS-A-PRODUCT Data products are created proactively; business users also have self-serve access to other data products.
TRADITIONAL Companies experience limited visibility and questionable trust in their data.	DATA-AS-A-PRODUCT Users trust and rely on data products because they are transparent, discoverable, and documented.
TRADITIONAL Static reports are quickly outdated, and building new dashboards is time-consuming.	DATA-AS-A-PRODUCT Living, evolving assets can be accessed in real time.
TRADITIONAL Limited reuse of data causes efforts to be duplicated across teams.	DATA-AS-A-PRODUCT Reusable assets scale with business needs, and there's no need for teams to start from scratch.
TRADITIONAL There's no clear ownership of data assets.	DATA-AS-A-PRODUCT Assigned, accountable product owners define a roadmap, lifecycle, and feedback loops.



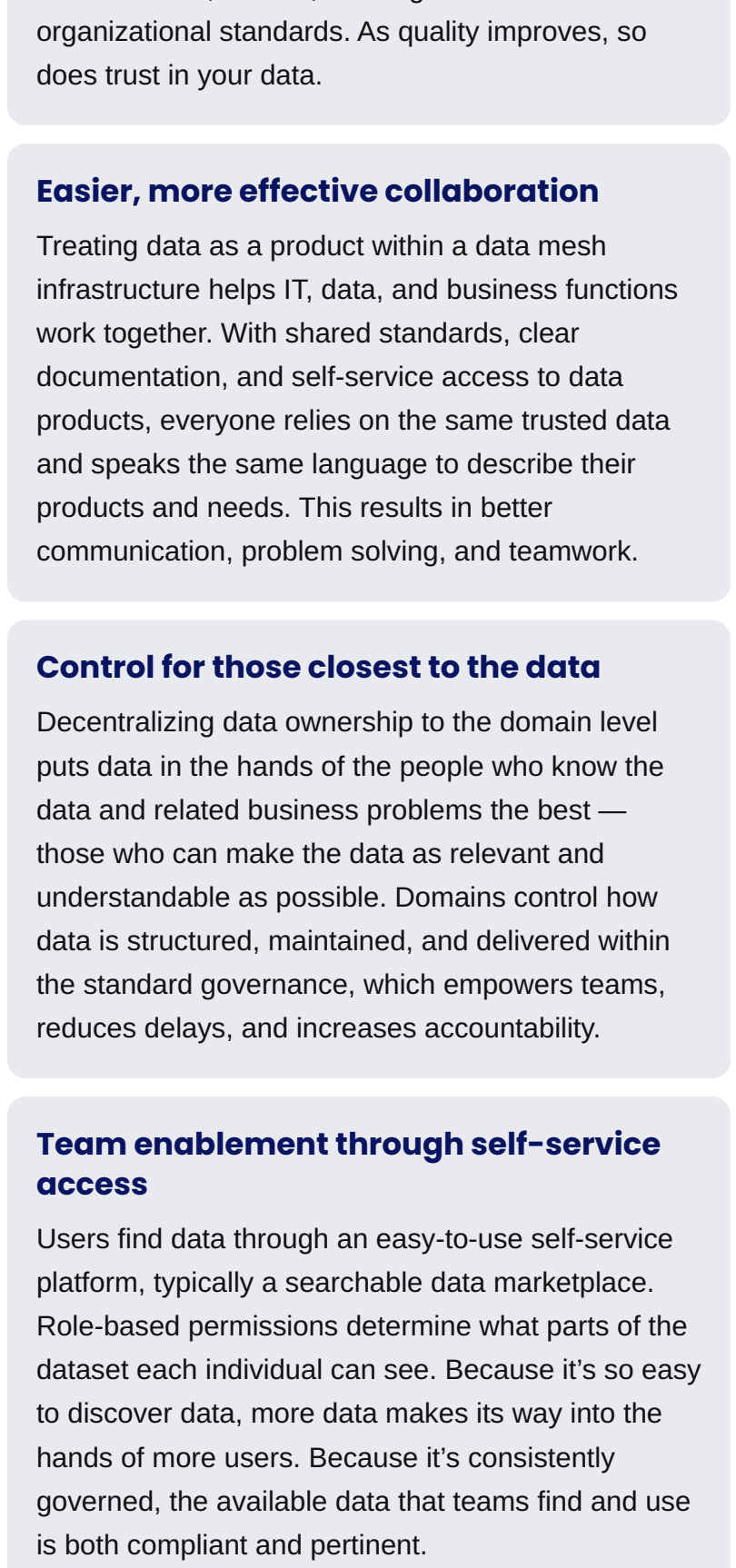
While powerful on its own, the data-as-a-product paradigm also serves to empower the other three components of a data mesh architecture, a concept established by Zhamak Dehghani.

These components are:

-  **Domain-oriented ownership**, which means data products are created and managed by the people who best understand the data's context, history, and value. Each domain will have both functional and technical experts who work together to build data products.
-  **A self-service data infrastructure**, which makes data products easily and instantly available to anyone (with appropriate access) who needs them, often through a searchable data marketplace that works similarly to an online store. That means no more IT bottlenecks where you're stuck waiting on reports that only pull data "byproducts."
-  **Federated computational governance**, which not only ensures compliance but also ensures that when someone pulls a data product from the self-service infrastructure, they can trust that it works consistently and interoperably with other data products across domains.

In our companion whitepaper, [Data Mesh Architecture: How Leading Companies Win with Data](#), we discuss how these pieces fit together; here, we'll focus on how adopting a DaaP paradigm is the cornerstone for creating data products with major business impact.

The Data-as-Product Ecosystem Visualized



Pinch to zoom for detail.

A data mesh architecture builds an ecosystem where everyone views data as a valuable, intentionally designed product. While business leadership provides large-scale, strategic direction, the IT team governs the self-service platform – rather than the business directing IT on which data requests to tackle from the entire organization. These teams' directions come together to create shared governance that keeps data compliant, meaningful, and reusable. Then, domain teams develop data products within their business functions, keeping in mind wider business contexts, organizational governance, and “FAIR” principles (which stands for findable, accessible, interoperable, and reusable).

CHAPTER FOUR

Benefits of DaaP

Applying product thinking to data opens the door to new levels of agility, trust, and cross-functional collaboration you didn't know were possible.

For example, most AI initiatives have a [failure rate of up to 85%](#) due to poor data quality, but data-as-a-product thinking addresses these data quality issues at the core. By establishing reliable, reusable data products, you remove the greatest barrier to AI success.

Here are some of other examples of payoffs that businesses experience when they treat data like a product within a data mesh architecture:

- Faster, more reliable decisions**
A DaaP approach democratizes data and makes it easily available in a trusted, well-structured format in real time. No more delays verifying accuracy or waiting on IT to pull multiple reports. With clearly defined data products, users have more and higher quality data to make better decisions faster.
- Customer retention**
Because teams receive timely access to the insights they need to understand their customers, they can engage proactively. With accurate, context-rich data, teams can resolve issues quickly, personalize experiences, anticipate needs, strengthen relationships, and earn loyalty.
- Improved data quality and trust**
Product owners validate, maintain, update, and archive data products through their lifecycles. This built-in maintenance and accountability keeps your data accurate, current, and aligned with organizational standards. As quality improves, so does trust in your data.
- Easier, more effective collaboration**
Treating data as a product within a data mesh infrastructure helps IT, data, and business functions work together. With shared standards, clear documentation, and self-service access to data products, everyone relies on the same trusted data and speaks the same language to describe their products and needs. This results in better communication, problem solving, and teamwork.
- Control for those closest to the data**
Decentralizing data ownership to the domain level puts data in the hands of the people who know the data and related business problems the best — those who can make the data as relevant and understandable as possible. Domains control how data is structured, maintained, and delivered within the standard governance, which empowers teams, reduces delays, and increases accountability.
- Team enablement through self-service access**
Users find data through an easy-to-use self-service platform, typically a searchable data marketplace. Role-based permissions determine what parts of the dataset each individual can see. Because it's so easy to discover data, more data makes its way into the hands of more users. Because it's consistently governed, the available data that teams find and use is both compliant and pertinent.
- Improved user experiences**
By treating data as a product and defining each product's “customers,” user experience becomes a priority. The interface is designed to be simple and intuitive so data is easily accessed, and consumers understand what they can do with a data product. A positive experience helps drive reuse and speeds adoption.
- Accelerated analytics, AI, and innovation**
High-quality, ready-to-use data products fuel machine learning, AI, and analytics initiatives. Analysts and data scientists have clean, fresh data with purposeful organization, which means they can spend less time wrangling raw data and more time on discovery, insights, predictions, and exploration of new opportunities.
- More efficient operations**
By treating data as a product within a data mesh architecture with self-service accessibility, organizations reduce redundancies and overhead. This makes for leaner operations and helps organizations adopt a continuous-improvement mindset that encourages innovation.
- Lower operational costs over time**
Reduce operational costs despite growing data volume not only by reducing duplicated effort but also by minimizing manual ad hoc reporting and decreasing dependence on specialized resources to meet everyday data needs. This removes silos, speeds delivery and efficiency, and creates long-term savings.
- Reusable data — at scale**
Build a data product once and reuse it often across multiple teams and multiple use cases. There's no need to rebuild reports from scratch. Users tap into well-documented, up-to-date, and curated products that are designed for reuse and repurposing.
- Streamlined governance and compliance**
Data products are structured, discoverable, and permissioned. By setting policies, security protocols, access controls, roles, and permissions up front, it's easier to enforce governance, meet regulatory requirements, and make audits proactive instead of reactive.

CHAPTER FIVE

DaaP in Action

Marlabs' Clients' Stories

One example of DaaP thinking in action comes from our client **Leidos**, a major defense company. **Marlabs helped them develop a DaaP paradigm.**

As with many organizations, it was difficult for Leidos to find and use analytical assets, and they often didn't meet expectations once discovered. At the same time, the IT team was **overstretched with requests and slowed down by legacy systems.**

The ultimate goal was to achieve interoperability between data products and thus **kickstart collaboration between departments.** This not only enabled faster insights to the CFO but also reduced the amount of accounts with outstanding balances. We started with a pilot project to develop a cash prediction model, which served as a proof of concept to establish the value of a DaaP approach to the organization. With this successful initiative and foundation, the team is now building additional data products to drive broader adoption and business value.

Another example comes from one of our **leading biotechnology clients**, where we helped modernize their sales and marketing data ecosystem using a DaaP approach. Their legacy sales data mart was rigid, manual, and unable to support decentralized ownership or timely decision-making. Marlabs implemented a Snowflake-powered platform with a data mesh architecture to establish governance, observability, and clear domain ownership. This transformation eliminated thousands of hours of manual work, empowered business units to manage their own data products, improved accessibility and trust in the data, and laid the foundation for a scalable and federated data culture.

How Other Major Brands Make Data Come Alive with DaaP Thinking

It's not just Marlabs' clients reaping the benefits of a DaaP approach, either.

Major businesses across industries and around the globe have adopted a data product mindset, including Warner Brothers Discovery, VistaPrint, Michelin, JPMorgan Chase, Medtronic, the National Institutes of Health, the Mayo Clinic, Siemens, the U.S. Army, WePay, HelloFresh, Zalando, TSYS, and Kolibri Games. Check out some of the other leading organizations' DaaP stories:

- PayPal**
PayPal wanted to increase governance and rethink data. They embraced a DaaP approach with a data mesh architecture to decentralize ownership and boost scalability. Domain teams now manage their own data products, which are supported by standardized data contracts, self-serve infrastructure, and federated governance. This led to increased scalability for diverse data sources and growing volume, fewer bottlenecks, better data quality, and the ability to make faster, data-informed decisions.
- Michelin**
Michelin transformed its data strategy by shifting from a centralized, siloed, slow, and inflexible platform to a decentralized, product-centric model using a Databricks-powered lake house. Domain teams own specific data products now and ensure data is accessible, trustworthy, and reusable. This led to widespread innovation and faster strategic outcomes. Michelin now boasts hundreds of use cases, including AI-driven forecasting and supply chain optimization.
- U.S. Dept. of Veteran Affairs (VA)**
The VA adopted DaaP to better track veterans taking their medications vital to their well-being and to suicide prevention. The VA modernized its data systems by moving to Microsoft Azure, where they created a standardized “Medication Possession Ratio” data product and implemented a searchable, governed data catalog. This cut processing time by 88%, produced consistent analytics, and created a model for future data products to help improve outcomes for veterans.
- JPMorgan Chase**
JPMorgan Chase implemented DaaP thinking through a data mesh initiative to democratize data and help clients access data products for investment decisions. The bank built a searchable catalog (like Amazon's) of data products with business-aligned definitions, descriptions, usage stats, and feedback. Because data is more transparent, trustworthy, and accessible, users can make quicker, more confident decisions. They've lowered customer acquisition costs and regulatory risks while also improving operational efficiency.

Other Major Use Cases

Data-as-a-product thinking can also be applied in countless other ways. For example:

Customer churn prediction

Data-driven healthcare insights

Demand forecasting

Digital product catalog management

E-commerce product recommendations

Energy usage optimization

Financial risk management

Personalized online shopping experiences

Personalized patient care plans

Predictive equipment maintenance

Real-time fraud detection and mitigation

Streamlined business operations

Supply chain efficiency tracking and optimization

Targeted marketing campaign execution

With this transformative approach, organizations are unlocking the full potential of their data to change the way they serve their customers, collaborate with their teammates, and drive business growth. For a deeper dive into developing a mature data mesh architecture, check out our companion whitepaper, [Data Mesh Architecture: How Leading Companies Win with Data](#).

Summary

For years, organizations have been trying to become more data-driven, but that's only becoming harder and harder.

Now, the traditional data management approach isn't delivering. If the current paradigm can't keep up with the speed of data or the demands that surround AI innovation today, how will it possibly hold up to the next wave of digital transformation?

The shift to the data-as-a-product paradigm isn't about new tools or architecture. It's about reimagining and restructuring your organization to shed the old data management model and embrace an entirely new philosophy that will set you up for future success in AI and beyond.

While a DaaP approach sounds simple in concept—it's “just” applying product management principles to data—it still requires openness to change, strong leadership, and a deep commitment to closely following data mesh tenets. But the payoff is substantial.

CHAPTER SEVEN

How Marlabs Can Help

At Marlabs, our team is here to help you succeed. As you read about earlier in this paper, we've guided major organizations in their data-as-a-product journeys.

Our approach stays true to product management principles, and we offer deep, hands-on experience in data, analytics, cloud, machine learning, and AI. Across industries, we've successfully delivered scalable platforms and business-ready data products. Our team will provide you with the business, technology, and industry acumen to holistically assess whether treating data as a product is the right move for your organization.

If you choose to move forward, our process is simple. We:

- Assess your readiness.** We take time to understand your people, processes, and technology; to identify gaps; and to align DaaP strategy with your business goals and objectives.
- Build an actionable roadmap.** We show you how to move from your current state to DaaP thinking, and we include checkpoints and continual feedback so you can mitigate risk and avoid common challenges.
- Build the foundation.** Whether that means migrating systems to the cloud or designing a platform that meets all the governance, compliance, and observability criteria you need, we help you put all the vital components in place.
- Empower domain teams.** We help with change management, tools, training, and frameworks to help your teams own and deliver their own data products.
- Deliver quick value.** We'll help you choose pilots to start implementing a DaaP paradigm that will demonstrate measurable impact and set the stage for the organization to scale the initiative.
- Accelerate adoption.** Our team deeply believes in ensuring enablement throughout our engagements. We implement change management a part of how we help our clients, guiding you with best practices and executive support to speed up adoption.

In short, we'll meet you where you are, work with you in the way that helps you best, and ultimately help you unlock the full value of your data. Of course, it's much more complicated than that. That's why we've built our proprietary MAP methodology, a roadmap of which is shown in image the below. We use this methodology to take clients from **strategy** through **execution** and into **enablement**.

Pinch to zoom for detail.

In a world where hype and misinformation sell, we focus on providing honest expertise. It's how we've built client loyalty that spans decades. If you're interested in discussing how a data-as-a-product approach might transform your company, we're ready to help.

Ready to unlock the full value of your data?

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